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News

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HIV and other sexually transmitted infections in the United Kingdom – publication of annual surveillance report *A complex picture*

The Health Protection Agency has published its annual surveillance report on HIV and other sexually transmitted infections (STIs) in the United Kingdom (UK). The report, entitled *A complex picture* provides a comprehensive epidemiological picture of the continuing HIV and STI epidemics in the united Kingdom (UK). 2006 marks the 25th anniversary of the first reported case of acquired immunodeficiency syndrome (AIDS) and the beginning of AIDS and HIV surveillance in the UK. This year also marks the roll-out of the National Chlamydia Screening Programme (NCSP) across England, a major sexual health initiative targeting young sexually active people.

Key findings of the report include:

- In 2005, there were an estimated 63,500 people, aged between 15 and 59 years living with HIV in the UK, of whom 20,100 (32%) remained undiagnosed. The majority of 7450 people newly diagnosed with HIV in 2005 were men who had sex with men (MSM) and heterosexuals who acquired their infection in Africa.

- MSM remain the behavioural group most at risk of acquiring HIV infection in the UK. Nevertheless African and Caribbean communities and groups with close links to these communities are also at high risk of infection through heterosexual contact in the UK. Targeted interventions in these groups are key to reducing HIV transmission in the UK.

- Young people are disproportionately affected by STIs, including genital chlamydial infections, gonorrhoea, and genital warts. Three-quarters of genital chlamydial infections diagnosed in female GUM clinic attendees in 2005 and 57% in male attendees were in the under 25 years age group. The roll-out of the NCSP will assist in bringing down levels of undiagnosed chlamydial infection. The Department of Health advertising campaign Essential Wear focusing on condom use among young persons is welcomed in raising awareness of the risks of sexually transmitted infections and the need to practice safer sex with new and casual partners.

- In 2005, almost 500 (one in five) HIV-infected MSM were estimated to have been diagnosed late in the course of their infection and had a CD4 count below 200 cells/mm^3, the threshold at which HIV treatment should begin. Late diagnosis was even more common among HIV-infected Black and minority ethnic (BME) populations (40%). MSM and BME individuals diagnosed late are over ten times more likely to die within a year of their HIV diagnosis than those with higher CD4 counts. Early testing of HIV infected people and access to treatment remains crucial in reducing ill health and the transmission of HIV.

Over the past 25 years, there has been an unprecedented priority given to the control and management of HIV and STIs in the UK. Key initiatives and successes have included: the screening of the blood supply; the early introduction of needle-exchange schemes and harm-minimisation programmes for injecting drug users; confidential and voluntary HIV testing (VCT); population level and targeted health promotion campaigns and interventions; the availability of effective anti-retroviral therapy, and more recently the introduction of antenatal screening for HIV. Nevertheless, HIV and other STIs remain a major public health concern in the UK. In 2005, more than 790,000 diagnoses

were made in genitourinary medicine clinics (GUM), and 47,517 individuals seen for HIV related care in the UK.

In 2005 there were 2356 new HIV diagnoses among MSM, the highest on record since the beginning of the epidemic. There is evidence of high rates of ongoing HIV transmission within this group. The annual incidence of HIV infection in MSM attending GUM clinics has remained high at 3.2%. Also in clinic attendees, the prevalence of previously undiagnosed HIV infection in those MSM aged under 25 years, an indicator of relatively recent transmission, was 1.5% for London and 1.3% outside London. There is further evidence of high risk sexual behaviours among MSM in 2005, with increases in cases of gonorrhoea and syphilis (4388 and 1448 respectively).

Diagnoses of HIV infection in people thought to have acquired their infection through heterosexual contact rose from 2031 in 2000 to 4049 reported for 2005. Many of these diagnoses were in black and minority ethnic adults, among whom an estimated 3.7% of black Africans and 0.3% of black Caribbeans were HIV-infected. This correlates respectively to 46 and 3.7 times the estimated prevalence of diagnosed HIV infection in white heterosexuals (0.08%). Among the small proportion of HIV-infected black Africans and black Caribbeans who were born in the UK, over half (59%) had probably acquired their infection within the UK and, where reported, 10% of their partners had also probably been infected within the UK. As the number of BME heterosexuals living with HIV (diagnosed and undiagnosed) in the UK grows, the likelihood increases of expanding heterosexual HIV transmission chains within BME communities living in the UK.

The 1.6% prevalence of HIV among injecting drug users (IDUs) attending specialist drug agencies in England and Wales in 2005 remains low in comparison with other countries. Nevertheless, outside of London prevalence has risen from 0.5% in 2003 to 1.2% in 2005, and the prevalence in London remained elevated at 3.2%. Possible contributing factors to this rise include high rates of direct and indirect sharing of needles, syringes, and related equipment in England (53%), Wales (56%), and Northern Ireland (43%).

There has been continued high uptake of VCT of HIV in the GUM and antenatal settings in 2005. The uptake of VCT among all heterosexuals attending GUM clinics increased to 82% and was sustained at 80% among MSM. One in every 450 women giving birth in England and Scotland in 2005 was HIV-infected and prevalence among women in England living outside London reached 0.13% in 2005. It is estimated that around 95% of HIV-infected pregnant women were diagnosed prior to delivery in 2005, compared with about 83% in 2001.

By the end of the third year of the NCSP, approximately 180 000 opportunistic screens for genital chlamydial infection in under 25 year olds had been undertaken outside of GUM settings. Infection was detected in 10% and 11% of women and men respectively. Almost 95% of index cases were treated, and 80% of these were successfully managed outside of GUM clinic settings.

Treatment and prevention initiatives have been successful not only in maintaining high numbers of HIV-infected individuals on anti-retroviral therapy, but also at reducing the proportion of children exposed to maternal HIV infection, and in delivering hepatitis B vaccine to 90% of eligible MSM attending GUM services. The improvement in access to sexual health services seen in the reduction in waiting times for attendance at GUM clinics is welcome as rapid access to diagnostic and treatment services for HIV and STIs is a key part of infection control. Nevertheless, there is considerable scope for improvement, which includes further increasing access to sexual health services; earlier HIV testing; more focussed prevention programmes for those at high sexual risk; and substantially increasing the volume of chlamydia screening.

A complex picture is accompanied by a series of supplementary data tables, and a slide set, which can be found along with an electronic version of the report at: <http://www.hpa.org.uk/publications/2006/hiv_sti_2006/default.htm>.

Reference

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Outbreak of pneumonia due to *Streptococcus pneumoniae* serotype 1 in a primary school in North Tyneside

Three cases of pneumococcal pneumonia in young children were detected in a closed-setting in North Tyneside. All three cases, aged between four and five years, attended a reception class at a primary school in Tynemouth. The dates of onset of illness for the cases ranged between 10 and 13 October 2006 and all were hospitalised with acute lobar pneumonia. One case was confirmed with infection due to *Streptococcus pneumoniae* by blood culture, and subsequently developed empyema, which required surgical drainage. Two cases were blood culture negative, but had clinical features of lobar pneumonia and were positive on urinary antigen for *S. pneumoniae* infection by Binax® testing. Typing for all three cases (one blood culture and empyema fluid, two serotype-specific antigen detection in urine) detected *S. pneumoniae* serotype 1.

Serotype 1 is not included in the new 7-valent conjugate pneumococcal vaccine (Prevenar®), and is one of the most invasive pneumococcal serotypes. Serotype 1 is known to be associated with an increased risk of pulmonary complications including empyema [1].

Serotype 1 is rarely detected in carriage studies [2,3]. The epidemiology of the cluster, however, suggested that transmission may have occurred at the school. Action was therefore taken to reduce the risk of further transmission to close contacts. All 64 classroom and 13 household contacts were offered rifampicin chemoprophylaxis. Vaccination (with conjugate or polysaccharide vaccine according to age) was recommended for previously unimmunised contacts belonging to specific at-risk groups as recommended by the CMO (such as asplenics and those who are immunosuppressed) [4].

The action taken was precautionary, and not based on published guidelines An HPA Working Group will be producing guidelines on the management of clusters of invasive pneumococcal disease in the near future.

Outbreaks of pneumococcal disease in children have been described in the literature. There are reports of clusters of pneumococcal pneumonia, bacteraemia and meningitis occurring in child-care facilities [5]. Rifampicin, when used as chemoprophylaxis, may confer a substantial but transient decrease in carriage rates among treated contacts and thus reduce transmission [6]. Polysaccharide vaccination will reduce the risk of invasive disease, particularly in those at higher risk, although it does not reduce carriage (and hence transmission) among contacts.

Transmission of pneumococci is by aerosol, droplets or direct contact with respiratory secretions of someone carrying the organism. Transmission usually requires frequent or prolonged close contact. Recent influenza infection is thought to increase the risk of invasive *S. pneumoniae* infection [6]. Reports suggest that around 35% of children in this age-group are carriers of *S. pneumoniae* [3]. Children attending nurseries appear to have higher carriage rates than those who do not [7].

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Screening for MRSA colonisation – best practice

The Chief Medical Officer and Chief Nursing Officer have issued a letter summarising best practice on screening for MRSA colonisation and an accompanying screening strategy. Trusts are advised to review their strategies for screening and decolonisation of patients with MRSA carriage immediately. The screening strategy has been devised to help with practical interventions. As a minimum intervention, Trusts are advised to consider models for effective screening of high-risk cohorts, in particular A&E admissions and pre-operative surgical assessment patients.

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Immunisation

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Invasive meningococcal infections, England and Wales: laboratory reports, weeks 38-42 2006

	Method of diagnosis			Total reports	Cumulative*
	CSF and blood Culture	Non-culture	Other sites	38-42/06	Total to week 42/2006
Group A	–	–	–	**–**	**1**
B	28	37	3	**68**	**1008**
C	1	2	–	**3**	**34**
W135	–	1	–	**1**	**21**
X	–	–	–	**–**	**–**
Y	–	–	–	**–**	**26**
Z/29E	–	–	–	**–**	**2**
Ungroupable	–	–	–	**–**	**45**
Ungrouped	–	6	–	**6**	**10**
Total	**29**	**46**	**3**	**78**	**1147**

*Latex antigen, microscopy, polymerase chain reaction combined Health Protection Agency Centre for Infections data and Meningococcal Reference Unit data.

Invasive meningococcal infections, England and Wales: laboratory reports, weeks 33-37 2006

	Method of diagnosis			Total reports	Cumulative*
	CSF and blood Culture	Non-culture	Other sites	33-37/06	Total to week 37/2006
Group A	–	–	–	–	**1**
B	26	28	5	**59**	**940**
C	1	–	–	**1**	**31**
W135	1	–	–	**1**	**20**
X	–	–	–	–	–
Y	–	–	–	–	**26**
Z/29E	–	–	–	–	**2**
Ungroupable	–	–	–	–	**45**
Ungrouped	–	2	–	**2**	**4**
Total	**28**	**30**	**5**	**63**	**1069**

*Latex antigen, microscopy, polymerase chain reaction combined Health Protection Agency Centre for Infections data and Meningococcal Reference Unit data.

Laboratory Reports of *Haemophilus influenzae* by age group and serotype, England and Wales: July to September 2006

Serotype	Age					Total
	<1 year	1-5 years	5-14 years	≥15 years	Not known	
b	3(1)	6(9)	– (1)	14(14)	1(–)	**24(25)**
nc	7(5)	3(1)	1(2)	28(15)	–(–)	**39(23)**
a,e,f	–(–)	–(1)	–(–)	6(4)	–(–)	**6(5)**
not typed	–(–)	1(–)	–(–)	21(19)	1(–)	**23(19)**
Total	**10(6)**	**10(11)**	**1(3)**	**69(52)**	**2(–)**	**92(72)**

Laboratory confirmed cases of measles, mumps and rubella,England and Wales : July to September 2006

Date presented here is for the third quarter of 2006 (*ie*, July to September 2006). Cases include those confirmed by oral fluid IgM antibody tests and routine laboratory reports (table 1). Analyses are by date of onset. Regional breakdown figures relate to Government Office Regions rather than regional health authorities (pre-April 2002 definitions) as used previously in this section. Quarterly figures for cases confirmed by oral fluid antibody detection only from 1995 are available from:

<http://www.hpa.org.uk/infections/topics_az/measles/data_not_confirmed.htm>
<http://www.hpa.org.uk/infections/topics_az/mumps/data_quarter.htm>
<http://www.hpa.org.uk/infections/topics_az/rubella/data_rub_not.htm>

and annual total numbers of confirmed cases by health region and age from:

<http://www.hpa.org.uk/infections/topics_az/measles/data_reg_age.htm>
<http://www.hpa.org.uk/infections/topics_az/mumps/data_reg_age.htm>
<http://www.hpa.org.uk/infections/topics_az/rubella/data_reg_age.htm>

Table 1 Total confirmed cases of measles, mumps, and rubella, and oral fluid IgM antibody tests in cases notified to ONS*: weeks 27-39/2006

	Cases			Oral fluid	IgM antibody	Results		
	Notified	Tested	%	Total positive	Recently vaccinated	Confirmed	Other lab confirmed	Total confirmed cases
Measles	887	739	83%	61	6	55	21	**76**
Mumps	2017	1217	60%	317	1	316	230	**546**
Rubella	314	218	69%	1	1	–	4	**4**

*ONS = Office for National Statistics

Table 2 Laboratory confirmed cases of mumps by age group and region, England and Wales: weeks 27-39/2006

Region	Age group								
	<1y	1-4y	5-9y	10-14y	15-19y	20-24y	≥25	NK	Total
North East	–	1	–	–	5	3	4	–	**13**
North West	2	2	3	3	21	21	24	1	**77**
Yorkshire and the Humber	–	1	–	7	33	33	28	–	**102**
East Midlands	–	2	1	1	11	23	16	–	**54**
West Midlands	–	3	–	4	6	5	12	–	**30**
East of England	–	0	–	3	9	6	12	1	**31**
London	1	2	6	4	17	23	14	–	**67**
South East	–	2	2	2	39	41	37	–	**123**
South West	–	1	–	–	8	9	11	–	**29**
Wales	–	–	–	2	2	–	2	–	**6**
Not known	–	–	–	1	5	6	2	–	**14**
Total	**3**	**14**	**12**	**27**	**156**	**170**	**162**	**2**	**546**

As previously reported, the cohort at an increased risk of mumps because they have either received no measles, mumps, and rubella (MMR) vaccine, or only one dose were born between 1981 and 1990 [1]. In 2004, the number of notified cases and the proportion of oral fluid samples tested and confirmed increased dramatically. From February 2005, the Health Protection Agency (HPA), recommended that, during this period of increased mumps incidence, oral fluid samples should not be taken from individuals with clinical mumps who were born between 1981 and 1986, and that they should be managed as if they were a confirmed case [2] . In January 2006, this recommendation was changed and it is now recommended that cases in all age groups should be confirmed by oral fluid testing [3].

Measles

Seventy-six cases of confirmed measles with onset dates in the third quarter of 2006 were reported. This compares to a total of 455 confirmed cases in the previous quarter [4]. Fifty-eight were in children aged under 15 years (12 aged under 1 year, 29 aged from 1 to 4 years; 11 aged from 5 to 9 years; and six aged 10 to 14 years), and 18 in adults 15 years and over. Six cases (7.9%) had a documented history of measles-containing vaccines: all had received one dose of MMR including two children who received MMR after exposure to a confirmed case but, despite this, developed clinical measles in the following two weeks.

Cases were reported from all regions except Wales (East of England 10, London 31, North West 4, North East 4, West Midlands 4, East Midlands 1, Yorkshire and the Humber 2, South East 17, South West 3). Only one case had a history of recent travel to Thailand and Malaysia (a D5 strain was identified). Fifty-two cases were associated with 16 clusters of between two and 10 cases; only one of these clusters was associated with known cases in the travelling community. A B3 genotype was identified in one or more case from eight clusters, D4 from three clusters, and D6 from two clusters. In one large, prolonged cluster in south east London , although most cases were B3, two strains of D4 were identified suggesting that cases may have acquired infection from contacts in the predominant D4 outbreak occurring in north east London . This suggests that importation of strains into inner city urban areas is common and underlines the importance of molecular epidemiology in defining transmission.

Mumps

Five hundred and forty-six cases of mumps with onset dates in the third quarter of 2006 were laboratory confirmed. This compares to 991 and 2,282 confirmed or assumed confirmed in the second and first quarters of 2006 respectively [4,5]. Notified cases decreased also this quarter from 3,560 to 2,017.

Rubella

Four confirmed cases of rubella were reported in this quarter. All were adults and three were known to be imported infections. Two cases were pregnant; a 35 year old woman who acquired her infection in the United Arab Emirates (UAE) and a 17 year old woman infected in Poland. One has proceeded to termination and the other has returned to UAE. A 26 year old man acquired his infection in Italy and has now left the country. The fourth case, a 56 year old man, is still being followed up.

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